



AIRLAB

SERVICE MANUAL

18.0 SOFTWARE PROTOCOL

It is possible to use the serial port of the AIRLAB which has been designed to be compatible with the RS-232 world standard as can be found on most PC's and MAC's

It is also possible to write your own application for the AIRLAB. To make this possible for you we are here providing you with the essentials you need.

This information is presented to you as DATA and Communication settings

I am sure that you bright girls and guys can do miracles now.

COMMUNICATION SETTINGS

Baud Rate	:	57600	Baud
Data size	:	8	Bits
Parity	:	None	
Stop bit	:	One	

PROTOCOL:

The protocol is written in an easy to understand way. Each data stream is built up around 3 bytes, which have been defined as follows:

Byte 1:	Type of message
Byte 2:	Module number
Byte 3:	Data
Byte 4+	Eventually more data

On the next page we will describe all the possibilities for every message

ON-switch message, only to Airlab:

Message	Channel number	Data	Description
0x80	Channel number	Byte 1 = 0	On switch off
		Byte 1 = 1	On switch on

CUE-switch message, only to Airlab:

Message	Channel number	Data	Description
0x81	Channel number	Byte 1 = 0	CUE switch off
		Byte 1 = 1	CUE switch on

START message, only from Airlab (its possible you receive this message more than once):

Message	Channel number	Data	Description
0x82	Channel number	Don't care	Start

STOP message, only from Airlab (its possible you receive this message more than once):

Message	Channel number	Data	Description
0x83	Channel number	Don't care	Stop

ON AIR1 message, only from Airlab (its possible you receive this message more than once):

Message	Channel number	Data	Description
0x84	Don't care	Byte 1 = 0	On Air 1 off
		Byte 1 = 1	On Air 1 on

ON AIR2 message, only from Airlab (its possible you receive this message more than once):

Message	Channel number	Data	Description
0x85	Don't care	Byte 1 = 0	On Air 2 off
		Byte 1 = 1	On Air 2 on

TIMER START message, only to Airlab:

Message	Channel number	Data	Description
0x90	Don't care	Don't care	Timer start

TIMER STOP message, only to Airlab:

Message	Channel number	Data	Description
0x91	Don't care	Don't care	Timer stop

TIMER RESET message, only to Airlab:

Message	Channel number	Data	Description
0x92	Don't care	Don't care	Timer reset

MODULE SETUP message, to and from Airlab:

Message	Channel number	Data	Description
0x93	Channel number	Byte 1 = 0	LineA, Timer inactive
		Byte 1 = 1	LineA, Timer active
		Byte 2 = 0	LineB, Timer inactive
		Byte 2 = 1	LineB, Timer active
		Byte 3 = 0	Mic, Timer inactive
		Byte 3 = 1	Mic, Timer active
		Byte 4 = 0	LineA, Start inactive
		Byte 4 = 1	LineA, Start active
		Byte 5 = 0	LineB, Start inactive
		Byte 5 = 1	LineB, Start active
		Byte 6 = 0	Mic, Start inactive
		Byte 6 = 1	Mic, Start active
		Byte 7 = 0	No start by Fader
		Byte 7 = 1	Start by Fader

		Byte 8 = 0	No start by ON
		Byte 8 = 1	Start by On
		Byte 9 = 0	No start by CUE
		Byte 9 = 1	Start by CUE
		Byte 10 = 0	Start Continues
		Byte 10 = 1	Start Puls
		Byte 11 = 0	LineA, Remote CUE inactive
		Byte 11 = 1	LineA, Remote CUE active
		Byte 12 = 0	LineB, Remote CUE inactive
		Byte 12 = 1	LineB, Remote CUE active
		Byte 13 = 0	Mic, Remote CUE inactive
		Byte 13 = 1	Mic, Remote CUE active
		Byte 14 = 0	DJ Mic disabled
		Byte 14 = 1	DJ Mic enabled
		Byte 15 = 0	Announcer Mic disabled
		Byte 15 = 1	Announcer Mic enabled
		Byte 16 = 0	Studio Mic disabled
		Byte 16 = 1	Studio Mic enabled
		Byte 17 = 0	LineA, On-Air-1 inactive
		Byte 17 = 1	LineA, On-Air-1 active
		Byte 18 = 0	LineB, On-Air-1 inactive
		Byte 18 = 1	LineB, On-Air-1 active
		Byte 19 = 0	Mic, On-Air-1 inactive
		Byte 19 = 1	Mic, On-Air-1 active
		Byte 20 = 0	LineA, On-Air-2 inactive
		Byte 20 = 1	LineA, On-Air-2 active
		Byte 21 = 0	LineB, On-Air-2 inactive
		Byte 21 = 1	LineB, On-Air-2 active
		Byte 22 = 0	Mic, On-Air-2 inactive
		Byte 22 = 1	Mic, On-Air-2 active
		Byte 23 = 0	Module OFF at startup
		Byte 23 = 1	Module On at startup
		Byte 24 = 0	LineA, MIC-mode off
		Byte 24 = 1	LineA, MIC-mode on
		Byte 25 = 0	LineB, MIC-mode off
		Byte 25 = 1	LineB, MIC-mode on
		Byte 26 = 0	Mic, Remote ON inactive
		Byte 26 = 1	Mic, Remote ON active
		Byte 27 = 0	LineA, Remote ON inactive
		Byte 27 = 1	LineA, Remote ON active
		Byte 28 = 0	LineB, Remote ON inactive
		Byte 28 = 1	LineB, Remote ON active

MASTER SETUP message, to and from Airlab:

Message	Channel number	Data	Description
0x94	Don't care	Byte 0 = 0	Auto CUE Reset disabled
		Byte 0 = 1	Auto CUE Reset enabled
		Byte 1 = 0	CUE to CRM disabled
		Byte 1 = 1	CUE to CRM enabled
		Byte 2 = 0	Auto Communication disabled

		Byte 2 = 1	Auto Communication enabled
		Byte 3 = 0	RS232 disabled (WARNING)
		Byte 3 = 1	RS232 enabled
		Byte 4 = 0	Disable setup on console
		Byte 4 = 1	Enable setup on console

CONFIG message, only from Airlab:

Message	Channel number	Data	Description
0x95	Don't care	Byte 1 = 1	Triple-input module in slot 1
		Byte 1 = 2	Telco module in slot 1
		Byte 1 = ?	No module in slot 1
		Byte 2 = 1	Triple-input module in slot 2
		Byte 2 = 2	Telco module in slot 2
		Byte 2 = ?	No module in slot 2
		Byte 3 = 1	Triple-input module in slot 3
		Byte 3 = 2	Telco module in slot 3
		Byte 3 = ?	No module in slot 3
		Byte 4 = 1	Triple-input module in slot 4
		Byte 4 = 2	Telco module in slot 4
		Byte 4 = ?	No module in slot 4
		Byte 5 = 1	Triple-input module in slot 5
		Byte 5 = 2	Telco module in slot 5
		Byte 5 = ?	No module in slot 5
		Byte 6 = 1	Triple-input module in slot 6
		Byte 6 = 2	Telco module in slot 6
		Byte 6 = ?	No module in slot 6
		Byte 7 = 1	Triple-input module in slot 7
		Byte 7 = 2	Telco module in slot 7
		Byte 7 = ?	No module in slot 7
		Byte 8 = 1	Triple-input module in slot 8
		Byte 8 = 2	Telco module in slot 8
		Byte 8 = ?	No module in slot 8
		Byte 9 = 1	Triple-input module in slot 9
		Byte 9 = 2	Telco module in slot 9
		Byte 9 = ?	No module in slot 9
		Byte 10 = 1	Triple-input module in slot 10
		Byte 10 = 2	Telco module in slot 10
		Byte 10 = ?	No module in slot 10
		Byte 11 = 1	Triple-input module in slot 11
		Byte 11 = 2	Telco module in slot 11
		Byte 11 = ?	No module in slot 11
		Byte 12 = 1	Triple-input module in slot 12
		Byte 12 = 2	Telco module in slot 12
		Byte 12 = ?	No module in slot 12
		Byte 13 = 1	Triple-input module in slot 13
		Byte 13 = 2	Telco module in slot 13
		Byte 13 = ?	No module in slot 13
		Byte 14 = 1	Triple-input module in slot 14
		Byte 14 = 2	Telco module in slot 14
		Byte 14 = ?	No module in slot 14
		Byte 15 = 1	Triple-input module in slot 15
		Byte 15 = 2	Telco module in slot 15
		Byte 15 = ?	No module in slot 15
		Byte 16 = 1	Triple-input module in slot 16
		Byte 16 = 2	Telco module in slot 16

		Byte 16 = ?	No module in slot 16
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EEPROM STORE message, only to Airlab:

Message	Channel number	Data	Description
0x96	Don't care	Don't care	Store settings in EEPROM

CHIPCARD STORE message, only to Airlab:

Message	Channel number	Data	Description
0x97	Don't care	Don't care	Store settings in SmartCard

CARD INSERTED message, only from Airlab:

Message	Channel number	Data	Description
0x98	Don't care	Byte 1 = 0	No Card Inserted
		Byte 1 = 1	Card inserted

IDSTRING message, only from Airlab

Message	Channel number	Data	Description
0x9A	Don't care	Byte 1-30	Asci Chars

GET MODULE SETUP message, only to Airlab:

Message	Channel number	Data	Description
0xB3	Channel number	Don't care	Airlab returns message 0x93

GET MASTER SETUP message, only to Airlab:

Message	Channel number	Data	Description
0xB4	Don't care	Don't care	Airlab returns message 0x94

GET CONFIG message, only to Airlab:

Message	Channel number	Data	Description
0xB5	Don't care	Don't care	Airlab returns message 0x95

GET CARDINSERTED message, only to Airlab:

Message	Channel number	Data	Description
0xB8	Don't care	Don't care	Airlab returns message 0x98

IDSTRING message, only from Airlab

Message	Channel number	Data	Description
0xBA	Don't care	Don't care	Airlab returns message 0x9A

19.0 HELP TEXT OF TIMER / SYSTEM SET-UP

Getting started

Module settings

Master settings

System

Timer

GETTING STARTED

Note:

*The 3.5" floppy disk you received (**if you ordered this option!!**) together with the Airlab may be used to set-up the console in an easier way. The requirements for a good working set-up is a PC with Windows 95 and a communication cable to connect to the PC and Airlab.*

How to connect the Airlab?

On the back panel of the Airlab you will find a connector called RS-232. This connector should be connected one-to-one to the PC's communication port (COM1 or COM2).

How to set-up the software?

To install 'System Set-up' you have to copy the file from the floppy to a directory on your harddrive.

- Insert the floppy into your PC.
- Go to START and click the left mouse button
- Go to RUN, click your left mouse button and type <a:\setup.exe> and hit OK

Now the software will be loaded and the installation program will guide you through the procedure which is fairly standard nowadays.

When you start the program for the first time, the program tries to find the Airlab on COM1, which will take about 5 seconds. When no Airlab is found the program comes with a message. To select the right communication port you can simply hit the radio button on the bottom left side of the main window. Now the program again tries to connect to the Airlab. If the program finds the console then you can set-up the console. More detailed information on the settings you could do are described in other sections of the help file.

If you have succeeded in doing all that we have written about this subject the following screen could be seen on your PC.

MODULE SETTINGS

How to program?

You can select the module you want to program by the list box (upper left) or by selecting the specific radio button in the middle of the window. The settings of the selected module are displayed in the 'Module Set-up'-section. If the module is a Telco module some function are predefined and therefore disabled. Also if a module number is selected where no module is active, all checkboxes are disabled.

If an active module is selected its possible to check or uncheck one of the checkboxes.

The console will be programmed online while changing the check boxes!

More detailed information about the setting can be found below.

TIMER ENABLED BY LINE A

If this function is turned on the timer is started when a module is in LINE-A input mode with the fader open and the module on.

TIMER ENABLED BY LINE B

If this function is turned on the timer is started when a module is in LINE-B input mode with the fader open and the module on.

TIMER ENABLED BY MIC

If this function is turned on the timer is started when a module is in MIC input mode with the fader open and the module on.

START ENABLED BY LINE A

If this function is turned on and the module is in LINE-A input mode a start condition can be generated by fader, ON, CUE (depending on the settings).

START ENABLED BY LINE B

If this function is turned on and the module is in LINE-B input mode a start condition can be generated by fader, ON, CUE (depending on the settings).

START ENABLED BY MIC

If this function is turned on and the module is in MIC input mode a start condition can be generated by fader, ON, CUE (depending on the settings).

START GENERATED BY FADER

Opening the fader generates a start condition, when the input selection matches the settings a start is generated. If also de 'START GENERATED BY ON' is checked both should be matched before a start will be generated.

START GENERATED BY ON

Activating the module by the ON switch generates a start condition, when the input selection matches the settings a start is generated. If also de 'START GENERATED BY FADER' is checked both should be matched before a start will be generated.

START GENERATED BY CUE

Activating the module by the ON switch generates a start condition, when the input selection matches the settings a start is generated.

START IS PULSE OR CONTINUE

If this function is checked the specific module generates a puls-start else its setup for a continues start.

REMOTE CUE ENABLED BY LINE A

If this function is turned the 'remote cue' can be used if the module is in LINE-A input mode

REMOTE CUE ENABLED BY LINE B

If this function is turned the 'remote cue' can be used if the module is in LINE-B input mode

REMOTE CUE ENABLED BY MIC

If this function is turned the 'remote cue' can be used if the module is in MIC input mode.

DJ Mic.

If Checked the module acts like a DJ-module

ANNOUNCER MIC.

If Checked the module acts like a Announcer-module (Also with 'Auto communication' if turned on in the master settings).

STUDIO Mic.

If Checked the module acts like a Studio-module

ON AIR 1 ENABLED BY LINE A

If this function is turned on the 'On Air-1'-relay is active when a module is in LINE-A input mode with the fader open and the module on.

ON AIR 1 ENABLED BY LINE B

If this function is turned on the 'On Air-1'-relay is active when a module is in LINE-B input mode with the fader open and the module on.

ON AIR 1 ENABLED BY MIC

If this function is turned on the 'On Air-1'-relay is active when a module is in MIC input mode with the fader open and the module on.

ON AIR 2 ENABLED BY LINE A

If this function is turned on the 'On Air-2'-relay is active when a module is in LINE-A input mode with the fader open and the module on.

ON AIR 2 ENABLED BY LINE B

If this function is turned on the 'On Air-2'-relay is active when a module is in LINE-A input mode with the fader open and the module on.

ON AIR 2 ENABLED BY MIC

If this function is turned on the 'On Air-2'-relay is active when a module is in LINE-B input mode with the fader open and the module on.

MODULE ON AT POWER UP

If this functions is checked the module turns default ON at power up.

Mic at Line A

If this function is turned on this module functions in MIC-mode (Cough/Communication) also when Line A is selected

Mic at Line B

If this function is turned on this module functions in MIC-mode (Cough/Communication) also when Line B is selected

Remote ON enabled by Line A

If this function is turned the 'remote **ON**' can be used if the module is in LINE-A input mode

Remote ON enabled by Line B

If this function is turned the 'remote **ON**' can be used if the module is in LINE-B input mode

Remote ON enabled by MIC

If this function is turned the 'remote **ON**' can be used if the module is in MIC input mode.

Master Settings

How to program?

In the section 'Master Set-up' you have three checkboxes to make settings for the master. Below you could find detailed info on these functions

AUTO CUE RESET

If this function is turned on the Cues are automatically reset when one channel is turned on by a fader or an ON-switch

CUE To CRM

If this function is turned on the CRM is switched off and the CUE signal is on the CRM.

AUTO COMMUNICATION

If this function is checked the communication is enable when the announcer module is in the CUE mode.

System

With system we mean actually two buttons, 'Save as start-up config' and 'Save on smart card'. These buttons stores the current settings of the console into the internal memory or on the smartcard. The button for the last option is only active when a card is inserted.

Timer

This section contains three buttons, 'Timer start/stop/reset' I think its clear what function these buttons have.

20.0 PARTSLISTS / SCHEMATICS

Date: 20-08-99 [15:46] BILL OF MATERIAL

Page:

D & R Electronica Weesp BV SERVICE-MANUAL

60881701 Airlab channel

Articlecode	Description	Quantity	Units
.10600536	Cinch 2xPCB (gold plated bush)	1.0000	st
.10400209	Condensator ker 4p7 R2.5	2.0000	st
.10400211	Condensator ker 6p8 R2.5	2.0000	st
.10400213	Condensator ker 10p R2.5	6.0000	st
.10400225	Condensator ker 100p R2.5	2.0000	st
.10401241	Condensator ker 100nF/50V R5 T	21.0000	st
.10401246	Condensator poly In0 R5.0	6.0000	st
.10401250	Condensator poly 4n7 R5.0	1.0000	st
.10401251	Condensator poly 6n8 R5.0	2.0000	st
.10401258	Condensator poly 47n R5.0	1.0000	st
.10401261	Condensator poly loon R5.0	1.0000	st
.10401263	Condensator poly 180n R5.0	4.0000	st
.10250342	Diode 1N4148 (signaal)	2.0000	st
.10400279	Elco luF 63V radiaal R5.0	2.0000	st
.10400284	Elco lOuF 50V radiaal R5.0	1.0000	st
.10400292	Elco 10OuF 25V radiaal R5.0	3.0000	st
.10400302	Elco loOuF 63V radiaal R5.0	1.0000	st
.10400243	Elco 220uF 16V radiaal R5.0	18.0000	st
.10400293	Elco 220uF 63V radiaal R5.0	2.0000	st
.10400303	Elco 100OuF 10V radiaal R5.0	1.0000	st
.10250270	Fet BST76a /BS107 (Nch switch)	1.0000	st
.10600511	Header 3p 2.54 lock recht	1.0000	st
.10600478	Header 4p 2.54 recht	4.0000	st
.10600170	Header 4p fem recht pcb	1.0000	st
.10600456	Header 20p 2.54 haaks,	3.0000	st
.10600140	Header 34p 2.54 haaks	1.0000	st
.10250004	Ic 4053B (HCF4053 BEY)switch	1.0000	st
.10250184	Ic SSM-2017 P (audio pre-amp)	1.0000	st
.10250032	Ic THAT 2180-LBE VCA	2.0000	st
.10250304	Ic TL-072 CP TI (dual-opamp)	1.0000	st
.10250305	Ic TL-074 CN TI (quad-opamp)	2.0000	st
.10600394	Ic-voet 8 pins (vork-contact)	2.0000	st
.10600402	Ic-voet 8 pins SIL 2.54mm,	2.0000	st
.10600395	Ic-voet 14 pins (vork-contact)	2.0000	st
.10600396	Ic-voet 16 pins (vork-contact)	1.0000	st
.10300163	Instelpot 10-turn 1k (T18)	1.0000	st
.10600530	Jack chass. slimline S253-84	2.0000	st
.10300408	Potm.97 100KBx2 CC	3.0000	st
.10300400	Potm.97 10KAx2	1.0000	st
.10300403	Potm.97 10KBx2 CC	2.0000	st
.10201418	Print Airlab 10A (channel 1/0)	1.0000	st
.10201411	Print Airlab 1A (channel)	1.0000	st

.10550001	Relais DIC121000 lxchnge minid	1.0000	st
.10550395	Schakelaar Alps 2p-ns (moment)	2.0000	st
.10550414	Schakelaar Alps 2pole mini NS	1.0000	st
.10550415	Schakelaar Alps 4pole mini NS	4.0000	st
.10250333	Transistor BC-327/25 (pnp)	1.0000	st
.10250332	Transistor BC-337/25 tape(npn)	1.0000	st
.10350517	Weerstand OE 5% 1/4W	2.0000	st
.10350729	Weerstand 1k0 5% 1/4W	2.0000	st
.10350732	Weerstand 1k8 5% 1/4W	2.0000	st
.10350703	Weerstand 2E2 5% 1/4W	7.0000	st
.10350733	Weerstand 2k2 5% 1/4W	2.0000	st
.10350734	Weerstand 2k7 5% 1/4W	2.0000	st
.10350784	Weerstand 3k48 1% 1/4W	1.0000	st
.10350737	Weerstand 4k7 5% 1/4W	1.0000	st
.10350844	Weerstand 4k75 1% 1/4W	2.0000	st
.10350846	Weerstand 6K81 1% 1/4W	2.0000	st
.10350739	Weerstand 6k8 5% 1/4W	4.0000	st

Date: 20-08-99 [15:46] BILL OF MATERIAL

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60881701

Airlab channel

Articlecode	Description	Quantity	Units
.10350776	Weerstand 10MO 5% 1/4W	2.0000	st
.10350741	Weerstand 10k 5% 1/4W	11.0000	st
.10350848	Weerstand 10k0 1% 1/4W	13.0000	st
.10350743	Weerstand 15k 5% 1/4W	2.0000	st
.10350853	Weerstand 15k8 1% 1/4W	4.0000	st
.10350744	Weerstand 18k 5% 1/4W	4.0000	st
.10350856	Weerstand 20k0 1% 1/4W	4.0000	st
.10350859	Weerstand 24k3 1% 1/4W	1.0000	st
.10350746	Weerstand 27k 5% 1/4W	3.0000	st
.10350861	Weerstand 28k7 1% 1/4W	1.0000	st
.10350714	Weerstand 56E 5% 1/4W	1.0000	st
.10350750	Weerstand 56k 5% 1/4W	1.0000	st
.10350717	Weerstand 100E 5% 1/4W	2.0000	st
.10350753	Weerstand 100K 5% 1/4W	15.0000	st
.10350757	Weerstand 220K 5% 1/4W	2.0000	st
.10350722	Weerstand 270E 5% 1/4W	1.0000	st
.10350725	Weerstand 470E 5% 1/4W	2.0000	st
.10350826	Weerstand 866E 1% 1/4W	1.0000	st
.10600238	XLR 907-02 ch.fem.3p pl.black	3.0000	st
.10250351	Zenerdiode 5V6 / 400mW	5.0000	st
10650448	Bandkabel 20p (R 1.27)	50.0000	cil
10600470	Conn 20p fem bandkabel	4.0000	st
10600173	Conn: 3p wrd:2UO84-018-0387	1.0000	st
10450151	Deksel SiFam limm Hopsack/117	1.0000	st
10450153	Deksel SiFam limm black/5bulk	1.0000	st
10450182	Deksel SiFam 11mm blue bulk	1.0000	st
10450195	Deksel SiFam limm gray bulk	1.0000	st
10450194	Deksel SiFam 11mm green bulk	1.0000	st
10450152	Deksel SiFam limm red/7 bulk	1.0000	st
10300094	Fader ALPS-Klin 100mm 10KB 9.4	1.0000	st
10101251	Front Airlab lb (InputChan.)	1.0000	st
10450211	Knop Druktoets 2.8 grey-rectan	2.0000	st
10450208	Knop Druktoets 2.8 grey-square	2.0000	st
10450210	Knop Druktoets 2.8 red-square	1.0000	st
10450216	Knop Druktoets black12x12 3.3	1.0000	st
10450215	Knop Druktoets grey 12x12 3.3	1.0000	st
10450082	Knop Fader SiFam white (1.2x8)	1.0000	st
10450103	Knop SiFam grey splined(limm)	6.0000	st
10250386	Led 3mm green SLR-03A210-020	3.0000	st
10250387	Led 3mm red SLR-03A510-020	4.0000	st
10700690	Platstaf 25 x 10 x 10mm	1.0000	st
10700611	Popnagel 3.0 x 6.5 blank	2.0000	st
20851418	Printb Airlab 10 (channel 1/0)	1.0000	st
20851411	Printb Airlab (channel)	1.0000	st

10700616	Taptite M3x10 bolkoppozidr/zw.	1.0000	st
10700786	Taptite M3x5 verzkop/pozidr/zw	2.0000	st
10700787	Taptite M3x6 bolkoppozidr/zwrt	2.0000	st
10700790	Taptite M3x6 verzkop/pozidr/zw	7.0000	st

60881702 Airlab telco channel

Articlecode	Description	Quantity	Units
.10600536	Cinch 2xPCB (gold plated bush)	1.0000	st
.10400211	Condensator ker 6p8 R2.5	1.0000	st
.10400213	Condensator ker lop R2.5	5.0000	st
.10400217	Condensator ker 22p R2.5	1.0000	st
.10400234	Condensator ker 680p R2.5	1.0000	st
.10400235	Condensator ker 820p R2.5	1.0000	st
.10401241	Condensator ker 100nF/50V R5 T	23.0000	st
.10401246	Condensator poly InO R5.0	1.0000	st
.10401268	Condensator poly luF R5.0	1.0000	st
.10401248	Condensator poly 2n2 R5.0	3.0000	st
.10401250	Condensator poly 4n7 R5.0	4.0000	st
.10401251	Condensator poly 6n8 R5.0	1.0000	st
.10400278	Condensator poly 8n2 R5.0	1.0000	st
.10400273	Condensator poly 12n R5.0	1.0000	st
.10401257	Condensator poly 33n R5.0	4.0000	st
.10401258	Condensator poly 47n R5.0	1.0000	st
.10401261	Condensator poly loon R5.0	1.0000	st
.10250342	Diode 1N4148 (signaal)	2.0000	st
.10400284	Elco lOuF 50V radiaal R5.0	2.0000	st
.10400292	Elco 10OuF 25V radiaal R5.0	7.0000	st
.10400243	Elco 220uF 16V radiaal R5.0	7.0000	st
.10400290	Elco 220uF 25V radiaal R5.0	2.0000	st
.10250270	Fet BST76a /BS107 (Nch switch)	1.0000	st
.10600511	Header 3p 2.54 lock recht	1.0000	st
.10600478	Header 4p 2.54 recht	6.0000	st
.10600456	Header 20p 2.54 haaks	3.0000	st
.10600140	Header 34p 2.54 haaks	1.0000	st
.10250004	Ic 4053B (HCF4053 BEY)switch	1.0000	st
.10250014	Ic 4N27 (opto-coupler)	1.0000	st
.10250055	Ic LS 1240 (ringer)	1.0000	st
.10250307	Ic NE-5532 AP TI (dual-opamp)	1.0000	st
.10250032	Ic THAT 2180-LBE VCA	1.0000	st
.10250304	Ic TL-072 CP TI (dual-opamp)	1.0000	st
.10250305	Ic TL-074 CN TI (quad-opamp)	2.0000	st
.10600394	Ic-voet 8 pins (vork-contact)	2.0000	st
.10600402	Ic-voet 8 pins SIL 2.54mm	1.0000	st
.10600395	Ic-voet 14 pins (vork-contact)	2.0000	st
.10600396	Ic-voet 16 pins (vork-contact)	1.0000	st
.10300160	Instelpot 10-turn 2k (T18)	1.0000	st
.10300202	Instelpot 25-turn 2k topT93YB	1.0000	st
.10600530	Jack chass. slimline S253-84	2.0000	st
.10300409	Potm.97 20KA	1.0000	st
.10300408	Potm.97 100KBx2 CC	1.0000	st

.10300400	Potm.97 10KAx2	1.0000	st
.10300403	Potm.97 loKBx2 CC	1.0000	st
.10201418	Print Airlab 10A (channel 1/0)	1.0000	st
.10201412	Print Airlab 2A (telco)	1.0000	st
.10550001	Relais DIC121000 lxchnge minid	2.0000	st
.10550010	Relais MR62 DIP 12V (2 x om)	1.0000	st
.10550395	Schakelaar Alps 2p-ns (moment)	2.0000	st
.10550414	Schakelaar Alps 2pole mini NS	3.0000	st
.10550415	Schakelaar Alps 4pole mini NS	2.0000	st
.10950018	Trafo LM-NP-1003-B (PTT line)	2.0000	st
.10250333	Transistor BC-327/25 (pnp)	1.0000	si
.10250332	Transistor BC-337/25 tape(npn)	2.0000	st
.10350765	Weerstand 1MO 5% 1/4W	1.0000	st
.10350729	Weerstand lko 5% 1/4W	1.0000	st
.10350732	Weerstand lk8 5% 1/4W	2.0000	si
.10350703	Weerstand 2E2 5% 1/4W	6.0000	si

60881702 Airlab telco channel

Articlecode	Description	Quantity	Units
.10350835	Weerstand 2k00 1% 1/4W	1.0000	st
.10350733	Weerstand 2k2 5% 1/4W	4.0000	st
.10350734	Weerstand 2k7 5% 1/4W	2.0000	st
.10350735	Weerstand 3k3 5% 1/4W	1.0000	st
.10350736	Weerstand 3k9 5% 1/4W	2.0000	st
.10350737	Weerstand 4k7 5% 1/4W	2.0000	st
.10350843	Weerstand 5k11 1% 1/4W	4.0000	st
.10350738	Weerstand 5k6 5% 1/4W	1.0000	st
.10350845	Weerstand 5k62 1% 1/4W	1.0000	st
.10350739	Weerstand 6k8 5% 1/4W	1.0000	st
.10350740	Weerstand 8k2 5% 1/4W	1.0000	st
.10350878	Weerstand 9k09 1% 1/4W	1.0000	st
.10350741	Weerstand 10k 5% 1/4W	5.0000	st
.10350848	Weerstand 10k0 1% 1/4W	12.0000	st
.10350850	Weerstand 11k0 1% 1/4W	1.0000	st
.10350742	Weerstand 12k 5% 1/4W	1.0000	st
.10350744	Weerstand 18k 5% 1/4W	1.0000	st
.10350856	Weerstand 20k0 1% 1/4W	9.0000	st
.10350746	Weerstand 27k 5% 1/4W	1.0000	st
.10350747	Weerstand 33k 5% 1/4W	2.0000	st
.10350713	Weerstand 47E 5% 1/4W	2.0000	st
.10350749	Weerstand 47k 5% 1/4W	1.0000	st
.10350714	Weerstand 56E 5% 1/4W	1.0000	st
.10350751	Weerstand 68k 5% 1/4W	1.0000	st
.10350752	Weerstand 82k 5% 1/4W	1.0000	st
.10350717	Weerstand 100E 5% 1/4W	5.0000	st
.10350753	Weerstand 100K 5% 1/4W	3.0000	st
.10350792	Weerstand 604E 1% 1/4W	1.0000	st
.10350825	Weerstand 768E 1% 1/4W	1.0000	st
.10600238	XLR 907-02 ch.fem.3p pl.black	3.0000	st
.10250351	Zenerdiode 5V6 400mW	2.0000	st
.10250352	Zenerdiode 8V2 400mW	1.0000	st
10650448	Bandkabel 20p (R 1.27)	50.0000	st
10600470	Conn 20p fem bandkabel	4.0000	st
10600173	Conn: 3p wrd:2U084-018-0387	1.0000	st
10450182	Deksel SiFam 11mm blue bulk	1.0000	st
10450195	Deksel SiFam limm gray bulk	1.0000	st
10450152	Deksel SiFam limm red/7 bulk	2.0000	st
10300094	Fader ALPS-Klin 100mm 10KB 9.4	1.0000	st
10101252	Front Airlab 2b (TelcoChan.)	1.0000	st
10450209	Knop Druktoets 2.8 black-squar	2.0000	st
10450211	Knop Druktoets 2.8 grey-rectan	1.0000	st
10450208	Knop Druktoets 2.8 grey-square	2.0000	st
10450216	Knop Druktoets black12x12 3.3	1.0000	st

10450215	Knop Druktoets grey 12x12 3.3	1.0000	st
10450011	Knop Fader SiFam red (1.2x8)	1.0000	st
10450103	Knop SiFam grey splined(limm)	4.0000	st
10250386	Led 3mm green SLR-03A210-020	3.0000	st
10250387	Led 3mm red SLR-03A510-020	4.0000	st
10700690	Platstaf 25 x 10 x 10mm	1.0000	st
10700611	Popnagel 3.0 x 6.5 blank	2.0000	st
20851418	Printb Airlab 10 (channel 1/0)	1.0000	st
20851412	Printb Airlab2 (telco ch)	1.0000	st
10700616	Taptite M3x10 bolkoppozidr/zw.	1.0000	st
10700786	Taptite M3x5 verzkop/pozidr/zw	2.0000	st
10700787	Taptite M3x6 bolkoppozidr/zwrt	2.0000	st
10700790	Taptite M3x6 verzkop/pozidr/zw	7.0000	st

60881775 Airlab frame

Articlecode	Description	Quantity	Units
.10250347	Brugcel B250-C7000/4000 rechth	3.0000	st
.10400217	Condensator ker 22p R2.5	2.0000	st
.10401241	Condensator ker 100nF/50V R5 T	47.0000	st
.10250343	Diode 1N4004 (rectifier)	6.0000	st
.10400284	Elco 10uF 50V radiaal R5.0	2.0000	st
.10400292	Elco 100uF 25V radiaal R5.0	6.0000	st
.10400302	Elco 100uF 63V radiaal R5.0	1.0000	st
.10400290	Elco 220uF 25V radiaal R5.0	2.0000	st
.10400308	Elco 680/100volt axiaal	1.0000	st
.10400299	Elco 4700uF/40V axiaal	2.0000	st
.10600474	Header 3p 3.96 recht	4.0000	st
.10600478	Header 4p 2.54 recht	1.0000	st
.10600486	Header 6p 3.96 Straight (405)	1.0000	st
.10600509	Header 20P 2.54 recht	17.0000	st
.10600140	Header 34p 2.54 haaks	1.0000	st
.10250057	Ic 4052 !uitsluitend National!	16.0000	st
.10250094	Ic 4094 (8bit serial shiftreg)	13.0000	st
.10250039	Ic 62C256 (8 bit 32k ram)	1.0000	st
.10250048	Ic 74HC138 3to8 line decoder	1.0000	st
.10250035	Ic 74HC14 (hex inv.schmitttrig)	1.0000	st
.10250033	Ic 74HC573 (octal-D latch)	2.0000	st
.10250291	Ic 7805 T0220 SGS (volt.reg)	1.0000	st
.10250036	Ic 80C552 (8-bit inicro-comptr)	1.0000	st
.10250026	Ic AM27C512-90DC 64K 100ns	1.0000	st
.10250019	Ic LM-350 T03 (volt.reg)	2.0000	st
.10250020	Ic TL-783 T0220 (high voltreg)	1.0000	st
.10250187	Ic X24164P 2kx8ser.EEprom di18	1.0000	st
.10600394	Ic-voet 8 pins (vork-contact)	1.0000	st
.10600395	Ic-voet 14 pins (vork-contact)	1.0000	st
.10600396	Ic-voet 16 pins (vork-contact)	30.0000	st
.10600398	Ic-voet 20 pins (vork-contact)	2.0000	st
.10600401	Ic-voet 28 pins (vork-contact)	2.0000	st
.10600403	Ic-voet 68 pins (PLCC Socket)	1.0000	st
.10300202	Instelpot 25-turn 2k topT93YB	2.0000	st
.10720664	Koelblok KL-135 75mm TO-3 zwrt	2.0000	st
.10720662	Koelprof KL-169/SW TO-220	1.0000	st
.10720663	Koelprof KL-207/38,1/SW 207180	1.0000	st
.10250398	Kristal 11.0592 Mhz	1.0000	st
.10750005	MDF plaatm 2440x65x10mm	0.3000	st
.10100008	Montageplaat 9.511	2.0000	st
.10700603	Parker 2.9 x 9 zwart	8.0000	st
.10200610	Print Aircom- 9d (powersupply)	1.0000	st
.10201416	Print Airlab 6a (cpu/mux)	1.0000	st

.10700011	Schuimrubberstr 2000xl20xl2mm	0.4000	st
.10700012	Skai SPARTA Donker grijs 112	0.2000	m
.10250333	Transistor BC-327/25 (pnp)	1.0000	st
.10250332	Transistor BC-337/25 tape(npn)	2.0000	st
.10350517	Weerstand OE 5% 1/4W	1.0000	st
.10350731	Weerstand 1k5 5% 1/4W	2.0000	st
.10350703	Weerstand 2E2 5% 1/4W	2.0000	st
.10350734	Weerstand 2k7 5% 1/4W	2.0000	st
.10350735	Weerstand 3k3 5% 1/4W	2.0000	st
.10350705	Weerstand 10E 5% 1/4W	1.0000	st
.10350741	Weerstand 10k 5% 1/4W	3.0000	st
.10350713	Weerstand 47E 5% 1/4W	6.0000	st
.10350716	Weerstand 82E 5% 1/4W	1.0000	st
.10350753	Weerstand 100K 5% 1/4W	1.0000	st
.10350722	Weerstand 270E 5% 1/4W	2.0000	st
.10350725	Weerstand 470E 5% 1/4W	2.0000	st

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D & R Electronica Weesp BV (SERVICE-MANUAL)

60881775

Airlab frame

Articlecode	Description	Quantity	Units
.10350726	Weerstand 560E 5% 1/4W	2.0000	st
.10350029	Weerstand 680E array si18 ncom	29.0000	st
.10350031	Weerstand array 8x 10k 9p SIL	16.0000	st
10101255	Achterplaat Airlab /b	1.0000	st
10650159	Bandkabel 34p (R 1.27)	300.0000	cil
10700618	Bout M 3 x 25 zwart	12.0000	st
10700908	Bout M 5x4O tapbout blank	1.0000	st
10600132	Conn 34p fem bandkabel	18.0000	st
10600460	Conn 406-6p 3.96	1.0000	st
10600173	Conn: 3p wrd:2UO84-018-0387	1.0000	st
10600169	Conn: 4p wrd: 2UO84-017-0387	1.0000	st
10600471	Crimp cont 406 series tin	12.0000	st
10800005	Doos Airmix-16	1.0000	st
10700975	Dubbelzijdig plakband 12mm dun	154.0000	cst
10500002	Isolatiekous 3.0mm rond (grys)	12.0000	st
10600432	Jack chassis break	1.0000	st
10600437	Jack fiberring (zwart)	1.0000	st
10600436	Jack moer	1.0000	st
10600007	Kabelschoen + boutgat M3 rood	1.0000	st
10700625	Kartelring M 3 (buitenvertan)	2.0000	st
10700910	Kartelring M5 (buitenvertand)	1.0000	st
10150427	Kast Airlab/b	1.0000	st
10500683	Krimpkous 3.2>1.6 zwart	10.0000	ct
10700007	Magneetstrip 8.5mm x 3mm.	154.0000	ct
10600701	Mains inlet SKT MS3 + FR MS3	1.0000	st
10700610	Moer M 3	2.0000	st
10700909	Moer M5	1.0000	st
10650374	Montagedraad 0.4 mm2 (geel)	30.0000	ct
10650375	Montagedraad 0.4 mm2 (groen)	30.0000	ct
10650371	Montagedraad 0.4 mm2 (rood)	30.0000	ct
10550020	Netschak. small black no lamp	1.0000	st
10600498	Netsnoer 3 aders euroconnector	1.0000	st
10101256	Plexiglas Airlab	1.0000	st
20850029	Print bestukt Aircom- 9 (ps)	1.0000	st
20851416	Printb Airlab6 (cpu/mux)	1.0000	st
10700707	Ring M5	1.0000	st
10950879	Ringk 120VA 2x19/lx3O+Mu+kern	1.0000	st
10100682	Schrijfstrook 2800x28x3mm 62st	77.0000	st
10700702	Schroef spaanplaat 4.5 x 20	6.0000	st
10700700	Schroef spaanplaat 4.5 x 30	2.0000	st
10800958	Schuimblok 40x140x280mm	11.0000	st
10800966	Schuimblok 80x140x280mm	2.0000	st
10700677	Soldeerlip klein	1.0000	st
10700787	Taptite M3x6 bolkopozidr/zwrt	16.0000	st

10700681	Tywrap kort 94 mm blank	1.0000	st
10700679	Tywrap plakzadel 21 x 21 mm	1.0000	st
10990703	Zekering 500mA slow 5x20mm	1.0000	st
10750758	Zijkant Airlab-A Ral 7042(L+R)	1.0000	st

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Comp:

60881705 Airlab master

Articlecode	Description	Quantity	UNITS
.10600390	ChipCard Conn 523 CCM02-1-NO35	1.0000	st
.10600536	Cinch 2xPCB (gold plated bush)	2.0000	st
.10600535	Cinch 4xPCB (gold plated bush)	3.0000	st
.10400213	Condensator ker lop R2.5	15.0000	st
.104QO217	Condensator ker 22p R2.5	11.0000	st
.10400223	Condensator ker 68p R2.5	3.0000	st
.10401241	Condensator ker 100nF/50V R5 T	51.0000	st
.10401268	Condensator poly luF R5.0	6.0000	st
.10401253	Condensator poly lOn R5.0	1.0000	st
.10600516	Conn 16p single row	1.0000	st
.10600043	Conn Sub-D9 fem pcb	2.0000	st
.10250342	Diode 1N4148 (signaal)	2.0000	st
.10400279	Elco luF 63V radiaal R5.0	4.0000	st
.10400292	Elco loOuF 25V radiaal R5.0	53.0000	st
.10400243	Elco 220uF 16V radiaal R5.0	17.0000	st
.10400281	Elco 4.7uF 50V radiaal R5.0	1.0000	st
.10250338	Fet J112 (N-channel switch)	8.0000	st
.10250017	Fet J175 (P-channel switch)	3.0000	st
.10600510	Header 2p 2.54 lock recht	1.0000	st
.10600511	Header 3p 2.54 lock recht	4.0000	st
.10600452	Header lop 2.54 haaks	3.0000	st
.10600456	Header 20p 2.54 haaks	9.0000	st
.10600140	Header 34p 2.54 haaks	3.0000	st
.10250001	Ic 7905 T0220 SGS (volt.reg)	1.0000	st
.10250179	Ic DRV-134PA (SSM2142)	8.0000	st
.10250028	Ic LM-317 (var.pos.volt.reg)	1.0000	st
.10250072	Ic MAX232 (RS232 driver)	1.0000	st
.10250307	Ic NE-5532 AP TI (dual-opamp)	5.0000	st
.10250306	Ic NE-5534 AP TI(single-opamp)	1.0000	st
.10250304	Ic TL-072 CP TI (dual-opamp)	6.0000	st
.10250305	Ic TL-074 CN TI (quad-opamp)	2.0000	st
.10600394	Ic-voet 8 pins (vork-contact)	16.0000	st
.10600395	Ic-voet 14 pins (vork-contact)	3.0000	st
.10300200	Instelpot 25-turn 20k H T93YB	2.0000	st
.10600530	Jack chass. slimline S253-84	4.0000	st
.10300400	Potm.97 10KAx2	6.0000	st
.10300403	Potm.97 10KBx2 CC	2.0000	st
.10201419	Print Airlab 30a (master 1/01)	1.0000	st
.10201413	Print Airlab 3a (ctr/aux/tape)	1.0000	st
.10201420	Print Airlab 40a (master 1/02)	1.0000	st
.10201414	Print Airlab 4a (studio/tb)	1.0000	st
.10201421	Print Airlab 50a (chipcard)	1.0000	st
.10201415	Print Airlab 5a (LCD/keyb)	1.0000	st

.10201422	Print Airlab 60a (cpu 1/0)	1.0000	st
.10550001	Relais DIC121000 Ixchnge minid	2.0000	st
.10550457	Schak Oct. 97-320.037+97.910.9	7.0000	st
.10550414	Schakelaar Alps 2pole mini NS	5.0000	st
.10550415	Schakelaar Alps 4pole mini NS	9.0000	st
.10250333	Transistor BC-327/25 (pnp)	1.0000	st
.10250332	Transistor BC-337/25 tape(npn)	4.0000	st
.10350517	Weerstand OE 5% 1/4W	1.0000	st
.10350729	Weerstand IkO 5% 1/4W	2.0000	st
.10350730	Weerstand Ik2 5% 1/4W	1.0000	st
.10350732	Weerstand Ik8 5% 1/4W	4.0000	st
.10350703	Weerstand 2E2 5% 1/4W	11.0000	st
.10350736	Weerstand 3k9 5% 1/4W	5.0000	st
.10350737	Weerstand W 5% 1/4W	6.0000	st
.10350705	Weerstand 10E 5% 1/4W	2.0000	st
.10350776	Weerstand 10MO 5% 1/4W	11.0000	st

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D & R Electronica Weesp BV (SERVICE-MANUAL) Comp: 1

60881705

Airlab master

Articlecode	Description	Quantity	Units
.10350741	Weerstand 10k 5% 1/4W	36.0000	st
.10350848	Weerstand 10kO 1% 1/4W	12.0000	st
.10350856	Weerstand 20kO 1% 1/4W	6.0000	st
.10350709	Weerstand 22E 5% 1/4W	1.0000	st
.10350745	Weerstand 22k 5% 1/4W	4.0000	st
.10350713	Weerstand 47E 5% 1/4W	16.0000	st
.10350749	Weerstand 47k 5% 1/4W	21.0000	st
.10350717	Weerstand 100E 5% 1/4W	9.0000	st
.10350753	Weerstand 100K 5% 1/4W	47.0000	st
.10350721	Weerstand 220E 5% 1/4W	1.0000	st
.10350757	Weerstand 220K 5% 1/4W	1.0000	st
.10600798	XLR chass mal 3p pl.zw X906-02	4.0000	st
.10250362	Zenerdiode 4V7 400mW	2.0000	st
.10250350	Zenerdiode 18VO 400mW	4.0000	st
10650448	Bandkabel 20p (R 1.27)	100.0000	st
10600391	ChipCard 042 X24C16Y	1.0000	st
10600470	Conn 20p fem bandkabel	10.0000	st
10450153	Deksel SiFam 11mm black/5bulk	1.0000	st
10450195	Deksel SiFam 11mm gray bulk	4.0000	st
10450152	Deksel SiFam 11mm red/7 bulk	3.0000	st
10101254	Front Airlab 4b (Master)	1.0000	st
10450211	Knop Druktoets 2.8 grey-rectan	9.0000	st
10450212	Knop Druktoets 2.8 red -rectan	5.0000	st
10450103	Knop SiFam grey splined(11mm)	8.0000	st
10250131	LCD MC1602B-SBL 16x2(octagon)	1.0000	st
10250386	Led 3mm green SLR-03A210-020	9.0000	st
10250387	Led 3mm red SLR-03A510-020	4.0000	st
10970912	Microfoon (condens) (talkback)	1.0000	st
10700690	Platstaf 25 x 10 x 10mm	2.0000	st
10101230	Plexiglas 16x2 display	1.0000	st
10700611	Popnagel 3.0 x 6.5 blank	4.0000	st
20851419	Printb Airlab 30 (master 1/01)	1.0000	st
20851420	Printb Airlab 40 (master 1/02)	1.0000	st
20851415	Printb Airlab 5 (LCD/keyb)	1.0000	st
20851421	Printb Airlab 50 (chipcard)	1.0000	st
20851422	Printb Airlab 60 (cpu 1/0)	1.0000	st
20851413	Printb Airlab3 (ctr/aux/tape)	1.0000	st
20851414	Printb Airlab4 (studio/tb)	1.0000	si
10700616	Taptite M3x10 bolkoppozidr/zw.	5.0000	st
10700787	Taptite M3x6 bolkoppozidr/zwrt	20.0000	st
10700790	Taptite M3x6 verzkop/pozidr/zw	10.0000	st

Date: 20-08-99

[15:48] B I L L O F M A T E R I A L

D & R Electronica
60881730

Weesp BV
Airlab VU meter

(SERVICE-MANUAL)
sectie

Comp: 1

<u>Articlecode</u>	<u>Description</u>	<u>Quantity</u>	<u>Units</u>
10650446	Bandkabel 10p (R 1.27)	80.0000	cm
10600095	Conn Sub-D9 malebandkabel	1.0000	st
10951006	VU meter ST-475 /24v lamp	4.0000	st